

# DESIGN BULLETIN #27/2005 (Revised December 2008)

## Provincial Highway Service Classification System and Provision of Additional Pavement Width to Allow for Two Future Overlays

**December 2008 Update to Design Bulletin #27/2005**  
Updates to Highway Service Classification Designation and Service  
Classification Map (Draft Version: November 2008)

**October 2006 Update to Design Bulletin #27/2005**  
Updates to CB6 Standard Drawings associated with this Design Bulletin  
(Refer to Item #5 under Attachments)

**March 2006 Update to Design Bulletin #27/2005**  
Added as an Attachment: Highway Service Classification Map 2002,  
Draft Version: December 10, 2002

### Summary

#### 1. Updated Provincial Highway Service Classification

The department has completed a study of its highway service classification system. The primary methodology used in the study was to identify the functional purpose of highways in the Province.

As a result of the study, a new service classification system has been adopted by the department based on four main functions that a highway serves. The four main categories are:

- Level 1
- Level 2
- Level 3
- Level 4

Level 1: These roadways accommodate the movement of people, goods and services inter provincially and internationally. They are defined as core route in the National Highway System and typically serve long trip lengths.

Level 2: These roadways are similar to the Level 1 roadways as they accommodate the movement of people, goods and services but mainly intra-provincially. These roadways also typically serve long trips.

Level 3: These roadways typically carry traffic from major generators such as communities and/or resource and developments but with overall shorter travel distances. These roadways provide the connection between Level 4 and Level 2 roadways, and generally serve traffic of an intra regional or inter county nature.

Level 4: These roadways typically serve traffic of an intra-jurisdictional nature or traffic within a localized area. Park roads are also included under Level 4. Park roads serve a function within the global tourist industry in Alberta.

These roads are identified on the new Highway Service Classification Map (Draft Version: November 2008)

Details of the study can be found in the Provincial Highway Service Classification, Final Report - November 2007. Refer to Attachments below.

2. Highway Geometric Design Guide, Figure G-1.1 Suggested Minimum Roadway Width for Rural Highways in Alberta. The 3R/4R sizing chart has been adjusted (existing AADT increased) based on the following:

- General growth in traffic volumes overall on the Highway network.
- The adopted policy many years ago of overbuilding to accommodate to allow for two future overlays.

### 3. Provision of Additional Pavement Width to Allow for Two Future Overlays

The department has been constructing wide subgrades and base courses on new construction and grade-widening projects for many years. The chief purpose of this strategy is to extend the service life that is achieved (despite the need for periodic pavement rehabilitation) if wide shoulders are still available i.e. deferral of the need for grade-widening. The department has used various practices such as overbuilding to provide for one overlay, using flatter sideslopes on pavements etc, depending on design guidelines and programming considerations at the time. In recent years the flat pavement sideslope has been used. It has been observed that this practice has been difficult to construct and compact due to the flat slope and relatively thin layer of ACP.

## Key Changes

1. The following changes to the department's service classification have been made:

- New classification system has been adopted by the department based on four main functions that a highway serves. The four main categories are:
  - Level 1
  - Level 2
  - Level 3
  - Level 4
- Highway Geometric Design Guide Figures (September/October 2008): A-3.2i, A-3.2ii, A-9 and G-1.1 (road sizing charts).
- Highway Service Classification Map 2002, Draft Version: December 10, 2002 is superseded by Highway Service Classification Map 2008, Draft Version: November 2008.

2. The 3R/4R sizing chart (Figure G-1.1). Adjustment to the "Existing AADT" to all of the suggested roadway minimum widths

3. The following changes to the department's practice for pavement construction have been made:

- Pavement sideslope of 5:1 shall be used at all stages on divided highways and 13, 12 and 11m wide undivided highways.
- Pavement sideslope of 4:1 shall be used at all stages of 10, 9 and 8 m undivided highways.
- The department will continue to provide a wide subgrade and wide base-course to allow two future overlays (80 mm each) without the surface width being reduced to less than the design designation width.
- This Design Bulletin supersedes Design Bulletin #10/2003.
- This Design Bulletin supersedes Design Bulletin #9/2002.

Attached to this Bulletin is a complete set of standard cross-section plans and typical pavement sideslope construction details.

### **Implementation**

The new recommended practices as indicated in this Bulletin are to be implemented immediately as per the usual practice.

Original Date of Issue: June 27, 2005

Revised Date (1): March 3, 2006

Revised Date (2): October 31, 2006

Revised Date (3): December 29, 2008

### **Contact**

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### **Attachments** (click on links)

1. Provincial Highway Service Classification, Final Report, November 2007  
<http://www.transportation.alberta.ca/Content/docType181/Production/HwyServiceClass.pdf>
2. Highway Geometric Design Guide Figures (September/October 2008): A-3.2i, A-3.2ii, A-9 and G-1.1 (road sizing charts).  
<http://www.transportation.alberta.ca/953.htm>
3. Highway Service Classification Map 2008, Draft Version: November 2008.  
<http://www.transportation.alberta.ca/953.htm>
4. (SUPERSEDED) Highway Geometric Design Guide Figures (August 1999-2001): A-3.2i, A-3.2ii, A-9 and G-1.1 (road sizing charts).  
<http://www.transportation.alberta.ca/953.htm>
5. (SUPERSEDED) Highway Service Classification Map 2002, Draft Version: December 10, 2002.  
<http://www.transportation.alberta.ca/953.htm>
6. Figures C-8.1c to C-8.1g (pavement sideslope construction details for various widths and types of construction).  
<http://www.transportation.alberta.ca/953.htm>

7. Figures C-8.2a to C-8.2q (standard cross-section plans).

<http://www.transportation.alberta.ca/953.htm>

8. CB6 Standard Drawings:

<http://www.transportation.alberta.ca/655.htm>

- CB6-2.3M1
- CB6-2.3M1A
- CB6-2.3M1B
- CB6-2.3M40
- CB6-2.3M40A
- CB6-2.3M40B
- CB6-2.3M41
- CB6-2.3M41A
- CB6-2.3M42
- CB6-2.3M42A
- CB6-3.50M5 to CB6-3.50M8

Recommended:

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